

Title (en)
PRINTING OF ELECTRONIC CIRCUITS AND COMPONENTS

Title (de)
DRUCKEN VON ELEKTRONISCHEN LEITERPLATTEN UND KOMPONENTEN

Title (fr)
IMPRESSION DE CIRCUITS ET COMPOSANTS ELECTRONIQUES

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Application
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Abstract (en)
[origin: WO0010736A1] Methods are disclosed for printing (2-7) multilayer electronic components, and circuits on a surface (2), where at least one of the layers is formed by a redox reaction (6) occurring in a deposited solution (4, 5). Electronic components may comprise semiconductors such as in transistors or diode, or metal oxide or electrolyte such as in batteries or fuel cells, or are capacitors, inductors, and resistors. Preferably, the oxidizer of the redox reaction is a strong oxidizer, and the reducer is a strong reducer (3). Reactions are preferably sufficiently exothermic that they can be initiated (6), rather than driven to completion, by microwave or other suitable energy sources, and may yield substantially pure metal or metal oxide layers. The solution being deposited (5) may have either high concentrations of particulates, such as 60-80 wt.% of dry weight, or low concentrations of particulates, such as ≤ 5 wt.% or ≤ 2 wt.%. Low particulate content provides printing of structures having lateral resolution of ≤ 10 μ m, ≤ 5 μ m, or ≤ 1 μ m.

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